

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

**WSOU INVESTMENTS, LLC D/B/A  
BRAZOS LICENSING AND  
DEVELOPMENT,**

Plaintiff,

v.

**ARISTA NETWORKS, INC.,**

Defendant.

Civil Action No. 6:20-cv-1083-ADA

JURY TRIAL DEMANDED

**ARISTA NETWORKS, INC.'S OPENING CLAIM CONSTRUCTION BRIEF**

## TABLE OF CONTENTS

	<b>Page</b>
I. INTRODUCTION .....	1
II. RELEVANT CLAIM CONSTRUCTION PRINCIPLES .....	1
III. CLAIM CONSTRUCTIONS RELATED TO U.S. PATENT NO. 7,409,715.....	2
A. “connection means between the wireless node and the intrusion detection module for providing the intrusion detection module with a copy of the original data frames” (cl. 10) .....	4
B. “means for transmitting outgoing data frames over a wireless interface” (cl. 17).....	6
IV. CLAIM CONSTRUCTIONS RELATED TO U.S. PATENT NO. 8,472,447.....	7
A. “aggregation switch” (cls. 1, 3-5, 12-16).....	7
B. “chassis management module” (cls. 1, 5, 12-14).....	8
1. “Chassis Management Module” Is Subject to Means-Plus Function Treatment .....	9
2. The Specification Fails to Disclose Sufficient Structure for the Claimed Functions of the “Chassis Management Module” .....	12
a. The “build[ing] [respective] forwarding vectors” functions.....	13
b. The “determin[ing] a multicast index” function .....	14
c. The “receiving the snooping information” function .....	15
d. The “sharing the snooping information” and “receiv[ing] a portion of the snooping information” functions.....	16
e. The “allocat[ing] the multicast index” and “shar[ing] the multicast index” functions .....	18
f. The remaining “storing” and “receiving” functions .....	18
C. “multicast index” (cls. 1, 12-15).....	19
V. CLAIM CONSTRUCTIONS RELATED TO U.S. PATENT NO. 9,450,884.....	21
A. “the network switching element” (cls. 17, 20).....	21

VI.	CONCLUSION.....	24
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**TABLE OF AUTHORITIES****Page(s)****CASES**

<i>Aristocrat Techs. Austl. Pty Ltd. v. Int’l Game Tech.</i> , 521 F.3d 1328 (Fed. Cir. 2008).....	1, 14
<i>BookIT Oy v. Bank of Am. Corp.</i> , 817 F. App’x 990 (Fed. Cir. 2020) .....	20
<i>Bushnell Hawthorne, LLC v. Cisco Sys., Inc.</i> , 813 F. App’x 522 (Fed. Cir. 2020) .....	21
<i>Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.</i> , 296 F.3d 1106 (Fed. Cir. 2002).....	4, 5
<i>Cellular Commc’ns Equip. LLC v. AT&amp;T, Inc.</i> , 2016 WL 7364266 (E.D. Tex. 2016) .....	22
<i>Digital Retail Apps, Inc. v. H-E-B, LP</i> , No. 6-19-CV-00167-ADA, 2020 WL 376664 (W.D. Tex. Jan. 23, 2020).....	13
<i>Dyfan, LLC v. Target Corp.</i> , No. W-19-CV-00179-ADA, 2020 WL 8617821 (W.D. Tex. Nov. 25, 2020).....	9
<i>Egenera, Inc. v. Cisco Sys., Inc.</i> , 972 F.3d 1367 (Fed. Cir. 2020).....	11
<i>Fiber, LLC v. Ciena Corp.</i> , 792 F. App’x 789 (Fed. Cir. 2019) .....	11
<i>Grecia v. Samsung Elecs. Am., Inc.</i> , 780 F. App’x 912 (Fed. Cir. 2019) .....	9
<i>Huawei Techs. Co. v. Verizon Commc’ns, Inc.</i> , No. 6:20-CV-00090-ADA, Dkt. No. 73 (W.D. Tex. Nov. 30, 2020).....	12
<i>Ill. Comput. Research LLC v. HarperCollins Publishers, Inc.</i> , No. 10 Civ. 9124, 2012 WL 163801 (S.D.N.Y. Jan. 19, 2012).....	23
<i>JVW Enters., Inc. v. Interact Accessories</i> , 424 F.3d 1324 (Fed. Cir. 2005).....	5, 6
<i>In re Katz Interactive Call Processing Patent Litig.</i> , 639 F.3d 1303 (Fed. Cir. 2011).....	18

<i>Media Rights Techs., Inc. v. Capital One Financial Corp.</i> , 800 F.3d 1366 (Fed. Cir. 2015).....	11
<i>MTD Prods. Inc. v. Iancu</i> , 933 F.3d 1336 (Fed. Cir. 2019).....	10
<i>Nautilus, Inc. v. Biosig Instruments, Inc.</i> , 572 U.S. 898 (2014).....	13, 21
<i>Omega Eng'g, Inc. v. Raytek Corp.</i> , 334 F.3d 1314 (Fed. Cir. 2003).....	7
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) ( <i>en banc</i> ) .....	1, 18
<i>Pitney Bowes, Inc. v. Hewlett-Packard Co.</i> , 182 F.3d 1298 (Fed. Cir. 1999).....	23
<i>Rain Computing, Inc. v. Samsung Elecs. Am., Inc.</i> , 989 F.3d 1002 (Fed. Cir. 2021).....	10
<i>Research Plastics, Inc. v. Federal Packaging Corp.</i> , 421 F.3d 1290 (Fed. Cir. 2005).....	24
<i>Sinorgchem Co., Shandong v. Int'l Trade Comm'n</i> , 511 F.3d 1132 (Fed. Cir. 2007).....	19, 20, 21
<i>Smith v. ORBCOMM, Inc.</i> , No. 2:14-CV-666, 2015 WL 5302815 (E.D. Tex. Sept. 10, 2015).....	22
<i>Sol IP, LLC v. AT&amp;T Mobility LLC</i> , No. 2:18-cv-00526-RWS-RSP, 2019 WL 6878836 (E.D. Tex. Dec. 17, 2019).....	20
<i>Synqor, Inc. v. Artesyn Techs., Inc.</i> , 2:07-CV-497-TJW-CE, 2010 WL 2991037 (E.D. Tex. July 26, 2010).....	21
<i>Triton Tech of Tex., LLC v. Nintendo of Am., Inc.</i> , 753 F.3d 1375 (Fed. Cir. 2014).....	14, 15, 17
<i>Uniloc USA, Inc. v. Samsung Elecs. Am., Inc.</i> , 809 F. App'x 863 (Fed. Cir. 2020), <i>aff'g</i> No. 2:18-cv-0042-JRG-RSP, 2019 WL 11023944 (E.D. Tex. Apr. 18, 2019) .....	15
<i>Watts v. XL Sys., Inc.</i> , 232 F.3d 877 (Fed. Cir. 2000).....	2
<i>Williamson v. Citrix Online, LLC</i> , 792 F.3d 1339 (Fed. Cir. 2015).....	<i>passim</i>

*WSOU Investments LLC v. Google LLC*,  
No. 6:20-CV-00575-ADA, Dkt. No. 49 (W.D. Tex. June 2, 2021).....12

**STATUTES**

35 U.S.C. § 112, paragraph 6.....1

## I. INTRODUCTION

The parties' claim construction disputes are few, but important. In nearly every instance, Plaintiff WSOU ignores the claim language and the other intrinsic evidence, as well as controlling law on claim construction, in its proposed constructions. By contrast, Arista's proposed constructions track the claims and use the intrinsic evidence as the guide to the meaning of the claims. And, when the claims use nonce terms and the intrinsic evidence reveals no algorithms or other structural support, Arista rightfully applies 35 U.S.C. § 112, paragraph 6 and reveal the claims to be indefinite. Arista asks, respectfully, that the Court adopt Arista's proposed constructions and reject WSOU's.

## II. RELEVANT CLAIM CONSTRUCTION PRINCIPLES

As the Court knows, "the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (*en banc*) (citation omitted). The specification also takes on a special role for means-plus-function terms because, after first identifying the claimed function, "the court must determine what structure, if any, disclosed in the specification corresponds to the claimed function." *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1351 (Fed. Cir. 2015). Where there are multiple claimed functions, "the patentee must disclose adequate corresponding structure to perform all of the claimed functions." *Id.* at 1351-52. "Structure disclosed in the specification qualifies as 'corresponding structure' if the intrinsic evidence clearly links or associates that structure to the function recited in the claim." *Id.* at 1352 (citation omitted). "In cases involving a computer-implemented invention . . . [the Federal Circuit] has consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor." *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008). In such a case, it is "***require[d]*** that the specification

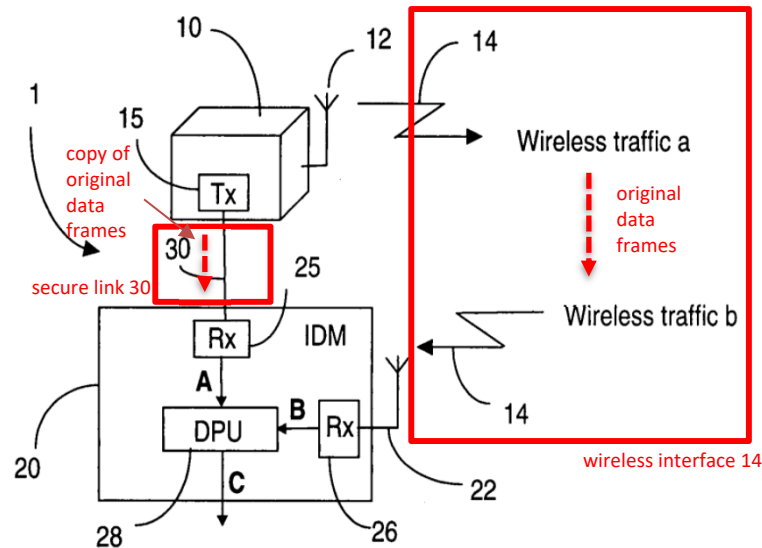
disclose an algorithm for performing the claimed function.” *Williamson*, 792 F.3d at 1352 (emphasis added).

Means-plus-function treatment is not limited to claims that recite a “means for” performing a function. When a claim does not recite a “means for,” there is a presumption against means-plus-function treatment—but that presumption is not a strong one and is rebuttable. *Id.* at 1349 (*en banc*). The presumption is rebutted when “the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Id.* (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)). If a person of ordinary skill in the art “would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim, a means-plus-function clause is indefinite.” *Id.* at 1352 (citation omitted).

### **III. CLAIM CONSTRUCTIONS RELATED TO U.S. PATENT NO. 7,409,715**

The ’715 patent is drawn to detection of impersonation attacks in a wireless network. As depicted in Figure 1 (annotated below in red), the patent generally discloses a wireless node that uses an antenna to transmit “original data frames” through a “wireless interface.” The wireless node also sends “a copy of the original data frames” to an intrusion detection module through a separate “secure link” connecting the wireless node with the intrusion detection module.





The intrusion detection module correlates the data frames received from the wireless interface with the copy of the original data frames received over the secure link to determine if an impersonation attack is going on. Any inconsistencies between the data frames received from the wireless interface and the copy of the original data frames received over the secure link would indicate suspect behavior.

There are two means-plus-function terms requiring the Court's construction. The first is a "connection means," which refers to the connection between the wireless node and the intrusion detection module. The second is a "means for transmitting outgoing data frames over a wireless interface." For each of these terms, the parties agree that the term is means-plus-function, but disagree on how the Court should construe the function, and what structure in the specification the Court should find corresponds to the function.

A. “connection means between the wireless node and the intrusion detection module for providing the intrusion detection module with a copy of the original data frames” (cl. 10)

Arista’s Proposed Construction	WSOU’s Proposed Construction
Means plus function	Means plus function
Function: providing the intrusion detection module with a copy of the original data frames	Function: providing the intrusion detection module with a copy of the original data frames transmitted by the wireless node over a wireless interface
Structure: “secure link 30, operating according to a respective communication protocol” in Figure 1 as well as equivalents thereof	Structure: the wireless interface 14 in accordance with the procedures set forth, e.g., in the specification at 2:17–20; 2:55–64; 2:65–3:6; 3:7–14; 3:41–46; 3:54–63; 4:16–23; and FIG. 1 as well as equivalents thereof

Arista’s proposal for the claimed function in this term comes directly from the claim itself, and its proposal for the corresponding structure is clearly linked to that function in the specification. By contrast, WSOU adds language to the claimed function and identifies structure unrelated to the claimed function. WSOU’s approach is inconsistent with the intrinsic evidence, violates the basic law of claim construction, and should be rejected.

This dispute is simple. Arista’s proposed function is exactly what the claim states. It is the correct function because “[t]he court **must** construe the function of a means-plus-function limitation to include the limitations contained in the claim language, **and only those limitations**. It is improper to narrow the scope of the **function** beyond the claim language.” *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1113 (Fed. Cir. 2002) (emphasis added) (citations omitted). “Providing the intrusion detection module with a copy of the original data frames” should be construed as “providing the intrusion detection module with a copy of the original data frames.”

Rather than follow this rule, WSOU seeks to add “transmitted by the wireless node over a wireless interface” to the claimed function. But there is no reason to do so—it is the claim language itself that defines the function, and that claim language does not limit the term to wireless nodes and wireless interfaces. *See, e.g., id.; JWW Enters., Inc. v. Interact Accessories*, 424 F.3d 1324, 1331 (Fed. Cir. 2005) (“[A] court may not construe a means-plus-function limitation ‘by adopting a function different from that explicitly recited in the claim.’” (citation omitted)). “Providing the intrusion detection module with a copy of the original data frames” does not need to be construed further.

With the proper function identified, Arista’s proposed structure is precisely what “the intrinsic evidence clearly links or associates” to the claimed function. *Williamson*, 792 F.3d at 1352. Figure 1 shows that “[s]ystem 1 includes a respective transmitter unit 15 at node 10, connected to a receiver unit 25 at intrusion detection module 20 **over secure link 30, operating according to a respective communication protocol.**” ’715 patent at 4:1-4 (emphasis added). And the specification clearly states that it is the copy that goes over the secure link: “Node 10 also sends **a copy of the original data A** to the intrusion detection module 20 **over the secure link 30.**” *Id.* at 4:22-23 (emphasis added); *see also id.* at Abstract (“The wireless node is connected to the intrusion detection module **over a secure link, for receiving a copy of the original data frames.**” (emphasis added)), 3:39-46. No other structure is described or identified as performing the claimed function.

By contrast, WSOU’s proposed structure is unrelated to the claimed function: providing a copy of the original data. The specification consistently distinguishes between how the copy and the original data are “provided,” and makes clear that the copy goes over the secure link. WSOU proposes a structure, wireless interface 14, that is used to transmit the **original data**, not the copy as required by the claim. *See* ’715 patent at 4:16-19 (describing “original data” transmitted “over

wireless interface 14”). Because the specification does not link WSOU’s proposed structure to the claimed function, WSOU’s proposal should be rejected.<sup>1</sup>

**B. “means for transmitting outgoing data frames over a wireless interface” (cl. 17)**

<b>Arista’s Proposed Construction</b>	<b>WSOU’s Proposed Construction</b>
Means plus function	Means plus function
Function: transmitting outgoing data frames over a wireless interface	Function: transmitting outgoing data frames over a wireless interface via a transmitter
Structure: “antenna 12” in Figure 1 as well as equivalents thereof	Structure: the node 10 of a wireless network in accordance with the procedure set forth, <i>e.g.</i> , in the specification at 3:64–4:4; 4:16–23; 4:26–27; 4:44–48; and FIGs. 1–2 as well as equivalents thereof

As with the last term, Arista’s proposal for the claimed function comes directly from the claim itself, whereas WSOU improperly adds language to the function, and again proposes a structure that is not linked to the claimed function. Here too, WSOU’s approach violates fundamental claim construction principles and should be rejected.

Both parties agree that the function should include “transmitting outgoing data frames over a wireless interface.” This is the actual function recited in claim 17. WSOU appends “via a transmitter” to the end of the claimed function. This should be rejected; WSOU cannot add language to the function that is not in the claim. *Supra* at III.A, citing *JVW Enters.*, 424 F.3d at 1331. Claim 17 does not mention “a transmitter,” and certainly does not limit the claimed function to a transmitter.

With the correct function identified, Arista’s proposed structure is the true corresponding structure in the specification. The specification states that the wireless node 10 includes “an

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<sup>1</sup> See also the discussion at Black Decl. at ¶¶ 18-25.

antenna 12 [that] transmits wireless traffic a over wireless interface 14.” ’715 patent at 4:16-19. “Wireless traffic a” is depicted as being the outgoing data frames in Figure 1. Thus, this description at column 4 of the ’715 patent is identical to the claimed function, and is the only disclosure in the patent that clearly links a specific structure—the antenna—to the recited function. No other structure is appropriately construed as the “corresponding structure.” *See, e.g., Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1332 (Fed. Cir. 2003) (finding other disclosed structures not part of the corresponding structure because they were “not clearly linked to the function recited”). The Court should adopt Arista’s proposed corresponding structure.<sup>2</sup>

#### IV. CLAIM CONSTRUCTIONS RELATED TO U.S. PATENT NO. 8,472,447

The ’447 patent generally relates to a system including two aggregation switches that cooperate in a multi-chassis system. Among other things, the two aggregation switches cooperate with respect to handling snooping information and forwarding multicast traffic. The patent explains that a “chassis management module”—a term without any structural meaning—can, among other functions, build forwarding vectors for multicast traffic and determine a multicast index for multicast traffic, but never explains how.

The parties have agreed to a construction for one term, “aggregation switch,” which they ask the Court to enter. The parties dispute whether “chassis management module” should be construed as a means-plus-function term, and whether “multicast index” should be construed according to the entire, or only a portion, of the express definition provided in the specification.

##### A. “aggregation switch” (cls. 1, 3-5, 12-16)

Agreed Upon Construction
The parties have agreed that the term “aggregation switch” should be construed by the Court as, “a network switch residing at the aggregation layer.”

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<sup>2</sup> *See also* the discussion at Black Decl. at ¶¶ 26-33.

**B. “chassis management module” (cls. 1, 5, 12-14)**

Arista’s Proposed Construction	WSOU’s Proposed Construction
<p>Means plus function</p> <p>Functions:</p> <ul style="list-style-type: none"> <li>• receiving the snooping information via at least the external ports, storing the snooping information within the database and sharing the snooping information substantially in real-time with the remote aggregation switch via the VFL (claim 1)</li> <li>• building respective forwarding vectors for multicast traffic flows received from the at least one network node via the external ports or the VFL ports based on the snooping information (claim 1)</li> <li>• determining a multicast index for a received multicast traffic flow to set-up hardware paths for forwarding the received multicast traffic flow to the external ports in a virtual local area network (VLAN) that requested the received multicast traffic flow via the at least one edge node (claim 1)</li> <li>• receiving a portion of the snooping information from the remote aggregation switch via the VFL (claim 5)</li> <li>• building the forwarding vector for the receiving multicast traffic flow based on the multicast index (claim 12)</li> <li>• allocating the multicast index for the received multicast traffic flow and sharing the multicast index with the secondary switch (claim 13)</li> <li>• receiving the multicast index from the primary switch (claim 14)</li> </ul> <p>Structure: Indefinite</p> <p>Alternatively, even if not means-plus-function, is still indefinite.</p>	<p>Plain and ordinary meaning; no construction necessary.</p>

The parties dispute whether “chassis management module” is subject to means-plus-function treatment. Means-plus-function treatment applies because the claims attribute numerous functions to the “chassis management module” without reciting sufficient structure for those functions. Moreover, there is no definite structure associated with the term “chassis management module.” As a means-plus-function term, the specification must disclose adequate corresponding

structure for the claimed functions. Here, the specification does not, and the claims are indefinite.

### 1. “Chassis Management Module” Is Subject to Means-Plus Function Treatment

“Chassis management module” is subject to means-plus-function treatment because the claim recites functions performed by the “chassis management module,” but there is no sufficiently definite structure for performing the recited functions in the claim. *See, e.g., Williamson*, 792 F.3d at 1349.

Claim 1 shows that “chassis management module” is not the name for structure but simply a substitute for “means” in the claims. For example, claim 1 has the following elements:

- “a chassis management module *for receiving* the snooping information via at least the external ports, *storing* the snooping information within the database and *sharing* the snooping information substantially in real-time with the remote aggregation switch via the VFL;
- wherein the chassis management module further *builds* respective forwarding vectors for multicast traffic flows received from the at least network node via the external ports or the VLF [sic] ports based on the snooping information;
- wherein the chassis management module further *determines* a multicast index for a received multicast traffic flow to set-up hardware paths for forwarding the received multicast traffic flow to the external ports in a virtual local area network (VLAN) that requested the received multicast traffic flow via the at least one edge node”

’447 patent, cl. 1 (emphases added). Dependent claims 5, 12, 13, and 14 add even more functions for the chassis management module without shedding any light on its structure. Thus, just as in *Williamson*, the claims are written “in a format consistent with traditional means-plus-function claim limitations,” and define the “chassis management module” solely in relation to its function. *Williamson*, 792 F.3d at 1350; *see also Grecia v. Samsung Elecs. Am., Inc.*, 780 F. App’x 912, 914-16 (Fed. Cir. 2019) (finding “customization module” a means-plus-function term because patent gave no indication it had a known meaning nor described how it operates); *Dyfan, LLC v. Target Corp.*, No. W-19-CV-00179-ADA, 2020 WL 8617821, at \*6 (W.D. Tex. Nov. 25, 2020) (finding means-plus-function applied because term in dispute was “defined only by the function it

performs”).

The term “chassis management module” connotes no more structure than if the term were replaced with “means.” “Generic terms like ‘module’ . . . are commonly used as verbal constructs that operate, like ‘means,’ to claim a particular function rather than describe a ‘sufficiently definite structure.’” *MTD Prods. Inc. v. Iancu*, 933 F.3d 1336, 1341 (Fed. Cir. 2019) (quoting *Williamson*, 792 F.3d at 1350 (such terms are “tantamount to using the word ‘means’”)); *see also Rain Computing, Inc. v. Samsung Elecs. Am., Inc.*, 989 F.3d 1002, 1006 (Fed. Cir. 2021) (noting “module” is a well-known nonce word and finding “user identification module” to be a means-plus-function term). Notably, in *Williamson*, the term at issue was not just a “module,” but a “distributed learning control module.” 792 F.3d at 1350. Just like the prefix “distributed learning control” in *Williamson*, the prefix “chassis management” here “does not impart structure into the term ‘module’” and “do[es] not describe a sufficiently definite structure.” *Id.* at 1351. The prefix itself—“chassis management”—suggests only a vague category of functions without any hint of a definite structure, just as the prefix “user identification” did in *Rain Computing*. 989 F.3d at 1006 (“Nor does the prefix ‘user identification’ impart structure because it merely describes the function of the module: to identify a user.”); Black Decl. at ¶¶ 41-44, 47. At best, the claims describe some inputs and outputs of the “chassis management module” at a very high level. But such a high-level description is insufficient to avoid means-plus-function treatment because it does not “inform the structural character of the limitation-in-question or otherwise impart structure.” *Williamson*, 792 F.3d at 1351. Indeed, a person of ordinary skill in the art would not understand the term to connote a sufficiently definite meaning as the name for structure. Black Decl. at ¶¶ 45-46.

The specification likewise fails to impart any structural significance to the term. The figures depict the “chassis management module” merely as a rectangle with the letters “CMM”—



a black box without structure. *See* '447 patent at Fig. 3, Fig. 8, Fig. 11, Fig. 12; *Media Rights Techs., Inc. v. Capital One Financial Corp.*, 800 F.3d 1366, 1372-73 (Fed. Cir. 2015) (finding depictions in specification of connections to parts of the system, functionality, and functional components insufficient to avoid means-plus-function treatment); *Fiber, LLC v. Ciena Corp.*, 792 F. App'x 789, 794-95 (Fed. Cir. 2019) (finding figures showed “a generic box with no indication of any structure” and that means-plus-function applied). The text of the specification only describes the “chassis management module” by its functionality. *See, e.g.*, '447 patent at 17:49-67, 19:32-50, 19:65-22:7, 23:4-24, 23:56-63, 24:18-23; Black Decl. at ¶¶ 48-49. At best, it provides a laundry list of generic components that may—not must—be used in a “chassis management module.” *See* '447 patent at 23:25-51. Tellingly, these same generic components also may be used in a “network interface module,” and therefore cannot impart a definite structure to the “chassis management module.” Black Decl. at ¶ 49. Moreover, this laundry list confirms that the “chassis management module” is nothing more than generic structure—hardware and/or software—“to perform the steps and/or functions described” in the specification. '447 patent at 23:25-51; Black Decl. at ¶ 49; *Williamson*, 792 F.3d at 1350 (“‘[M]odule’ is simply a generic description for software or hardware that performs a specified function.”). Thus, the specification does not show “chassis management module” to be “the name of a sufficiently definite structure,” and so the term is means-plus-function. *Williamson*, 792 F.3d at 1351.

And even if “chassis management module” “connotes some possible structure,” that alone does not make it “sufficient structure to perform the claimed functions”—in particular those related to forwarding vectors and the multicast index, as Dr. Black’s declaration makes clear. *Egenera, Inc. v. Cisco Sys., Inc.*, 972 F.3d 1367, 1374 (Fed. Cir. 2020); Black Decl. at ¶¶ 50-54. Thus, the

claimed “chassis management module” is subject to means-plus-function treatment.<sup>3</sup>

## 2. The Specification Fails to Disclose Sufficient Structure for the Claimed Functions of the “Chassis Management Module”

The first step in construing a means-plus-function term is identifying the claimed functions.

In claim 1, the “chassis management module” performs five functions:

- 1) “receiving the snooping information via at least the external ports”;
- 2) “storing the snooping information within the database”;
- 3) “sharing the snooping information substantially in real-time with the remote aggregation switch via the VFL”;
- 4) “build[ing] respective forwarding vectors for multicast traffic flows received from the at least one network node via the external ports or the VLF [sic] ports based on the snooping information”; and
- 5) “determin[ing] a multicast index for a received multicast traffic flow to set-up hardware paths for forwarding the received multicast traffic flow to the external ports in a virtual local area network (VLAN) that requested the received multicast traffic flow via the at least one edge node.”

Dependent claims add further functions performed by the “chassis management module”:

- 6) “receiv[ing] a portion of the snooping information from the remote aggregation switch via the VFL” (claim 5);
- 7) “build[ing] the forwarding vector for the received multicast traffic flow based on the multicast index” (claim 12);
- 8) “allocat[ing] the multicast index for the received multicast traffic flow” (claim 13);
- 9) “shar[ing] the multicast index with the secondary switch” (claim 13); and
- 10) “receiv[ing] the multicast index from the primary switch” (claim 14).

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<sup>3</sup> This Court has found similar terms subject to means-plus-function treatment in similar circumstances. *See, e.g., Huawei Techs. Co. v. Verizon Commc’ns, Inc.*, No. 6:20-CV-00090-ADA, Dkt. No. 73 (W.D. Tex. Nov. 30, 2020) (construing “a first forwarding module” and “input analyzing module” as means-plus function); *WSOU Investments LLC v. Google LLC*, No. 6:20-CV-00575-ADA, Dkt. No. 49 (W.D. Tex. June 2, 2021) (construing “client management processor” as means-plus-function).

In the second step of construing a means-plus-function term, the Court must determine what structure corresponds to each of the ten claimed functions, and whether there is sufficient structure disclosed for the claimed functions to inform the person of ordinary skill in the art of the scope of the claims with reasonable certainty. *Williamson*, 792 F.3d at 1351-52; *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 909-10 (2014). Here, the specification discloses that the “chassis management module” is nothing more than “one or more processing devices . . . that manipulates signals (analog and/or digital) based on hard coding of the circuitry and/or operational instructions.” ’447 patent at 23:25-33. In other words, it is a specially programmed processor, and the specification must “disclose an algorithm for performing the claimed function.” *Williamson*, 792 F.3d at 1352 (citations omitted); *see also Digital Retail Apps, Inc. v. H-E-B, LP*, No. 6-19-CV-00167-ADA, 2020 WL 376664, at \*6 (W.D. Tex. Jan. 23, 2020) (“[O]ne must identify how the software performs the functions by disclosing an algorithm in order to provide structural specificity.”). As outlined below, and in Dr. Black’s declaration, the specification fails to disclose any such algorithm for a number of the claimed functions, rendering the claims indefinite. Black Decl. at ¶¶ 56-73.

**a. The “build[ing] [respective] forwarding vectors” functions**

The “build[ing] respective forwarding vectors” and “determin[ing] a multicast index” functions were not part of originally-filed claim 1; they were added during prosecution to overcome a prior art rejection. Ex. 11, ’447 File History, Jan. 22, 2013 Amendment. Starting with enumerated functions 4 and 7 above, claims 1 and 12 each require building forwarding vectors for multicast traffic flows based on either snooping information (claim 1) or on the snooping information and the multicast index (claim 12). These functions cannot be performed by a general purpose computer; they require special programming and disclosure of an algorithm. Black Decl. at ¶¶ 63-66, 69. But the specification fails to provide one.

The specification merely restates the function and provides exemplary results, but does not disclose an algorithm for building forwarding vectors based on snooping information. When first introducing a “forwarding vector,” the specification simply says that the chassis management module “uses the hardware device information to compute a forwarding vector 407a for the IP multicast traffic 404.” ’447 patent at 20:7-10. But this “does not disclose an algorithm—i.e., a step-by-step procedure—for performing the claimed function,” and “is hardly more than a restatement of the [building] function itself.” *Triton Tech of Tex., LLC v. Nintendo of Am., Inc.*, 753 F.3d 1375, 1378-79 (Fed. Cir. 2014). Other references to the forwarding vector in the specification similarly just restate the function without any explanation for how the forwarding vector is actually built. *See* ’447 patent at 20:25-28, 20:39-41, 20:56-58, 21:1-4, 21:29-32, 21:56-60. And while the specification also suggests what exemplary forwarding vectors “would indicate” or “would not indicate,” *see id.* at 23:64-24:35, “the results of the operation of an unspecified algorithm” do not provide sufficient structure for the algorithm. *Aristocrat*, 521 F.3d at 1335.

Nor does the specification describe an algorithm for building forwarding vectors based on a multicast index. Indeed, the specification never states that a forwarding vector is built or calculated “based on the multicast index,” let alone provide an algorithm for doing so. Thus, there is no corresponding structure disclosed and certainly nothing that would rise to the level of the required algorithm. *See Williamson*, 792 F.3d at 1352.

Thus, the specification fails to disclose an algorithm for the claimed “building [respective] forwarding vector” functions, rendering the claims indefinite.

#### **b. The “determin[ing] a multicast index” function**

The other function added to original claim 1 to avoid prior art was the “determin[ing] a multicast index” function. Ex. 11, ’447 File History, Jan. 22, 2013 Amendment. The determining

function of claim 1 requires determining a multicast index for a received multicast traffic flow in order to set-up hardware paths for forwarding the received multicast traffic flow to the external ports in a virtual local area network (VLAN) that requested the received multicast traffic flow via at least one edge node. Plainly, this function also requires special programming and disclosure of an algorithm. Black Decl. at ¶¶ 67-68. Once again, none is provided.

The term “multicast index” appears only a handful of times in the specification, and nothing in the specification states that the chassis management module “*determines* a multicast index for a received multicast flow,” much less *how* it would do this. See ’447 patent at 23:13-24, 23:56-63. Thus, the specification fails to “clearly link[] or associate[]” any structure to the recited function as it must. *Williamson*, 792 F.3d at 1352 (citation omitted). Even if one were to assume the specification’s reference to “creating the multicast index” is the same as determining it, there is no algorithm provided for “creating” it either—just a statement that the chassis management module is the black box that creates it. That is inadequate support for “determining a multicast index,” rendering claim 1 indefinite. See, e.g., *Triton Tech*, 753 F.3d at 1378-79; *Uniloc USA, Inc. v. Samsung Elecs. Am., Inc.*, 809 F. App’x 863, 865-66 (Fed. Cir. 2020) (finding that “the specification merely restates the claimed function” and finding claim indefinite), *aff’g* No. 2:18-cv-0042-JRG-RSP, 2019 WL 11023944, at \*11-13 (E.D. Tex. Apr. 18, 2019).

### c. The “receiving the snooping information” function

Enumerated function 1 above requires receiving the “snooping information.” The specification makes clear “snooping information” is not information merely sent to the “chassis management module” that it receives. Instead, “snooping information” refers to information that is “derived” by a switch that “can ‘listen’ to Internet Group Management Protocol (IGMP) network traffic and Multicast Listener Discovery (MLD) traffic . . . to track various IP multicast snooping information, such as multicast queries . . . , membership reports . . . , neighboring multicast routers

... and multicast flows ...” ’447 patent at 18:48-59, 19:65-20:7 (“derived” information stored as “IP multicast snooping information”), 20:29-33 (similar), 20:59-67 (similar), 21:48-56 (similar); *see also id.* at 2:58-3:5 (“IP snooping refers to the process of listening to Internet Group Management Protocol (IGMP) network traffic between computing devices and routers to derive a map of which devices need which IP multicast streams.”); Abstract (“The **resulting** IP multicast snooping information is maintained internally within each Aggregation Switch and shared substantially in real-time therebetween via the VFL.”). This function requires special programming and therefore requires disclosure of an algorithm. Black Decl. at ¶¶ 59-60.

The specification identifies a software process, “the IPMS process” that performs this function, but provides no algorithm for actually “receiving the snooping information.” ’447 patent at 19:32-35. It is the IPMS process on each “chassis management module” that “processes packets from either from the Virtual Fabric Link 124 **or the external ports** ... as normal multicast packets and updates their respective tables accordingly.” *Id.* at 19:41-45 (emphasis added). Thus, the specification links the IPMS process to the claimed function of receiving packets from external ports. The IPMS process then must process those packets to derive and thereby receive the snooping information. *See id.* at 19:65-20:7, 20:29-33, 20:59-67, 21:48-56. But the specification does not disclose an algorithm for the IPMS process and how “snooping information” is received by running the IPMS process. This lack of algorithm renders the claims indefinite.

**d. The “sharing the snooping information” and “receiv[ing] a portion of the snooping information” functions**

Enumerated function 3 above (claim 1) requires “sharing the snooping information substantially in real-time with the remote aggregation switch via the VFL.” Claim 5 requires “receiv[ing] a portion of the snooping information from the remote aggregation switch via the VFL,” and sets forth details of some characteristics of the information. These functions also

require special programming and therefore require disclosure of algorithms. Black Decl. at ¶¶ 61-62. But here again the specification fails to provide any.

The specification merely restates the function of sharing, but does not disclose an algorithm for how the sharing is performed. The specification explains that with two cooperating aggregation switches, in order to “properly forward the multicast traffic,” the switches perform IGMP snooping, but require “various modifications.” ’447 patent at 18:48-67. “In particular, each Aggregate Switch 106a and 106b can be configured to share their discovered IP multicast snooping information with the other Aggregate Switch 106a and 106b via the VFL 124 . . . .” *Id.* at 18:67-19:3. But aside from stating that the sharing can happen, the specification provides nothing by way of an algorithm or “step-by-step procedure” for performing the function. *Triton Tech*, 753 F.3d at 1378-79. At best, the specification states, as an example, that sharing can occur “using proprietary messages via the inter-chassis IPC (shown in FIG. 8).” ’447 patent at 19:38-41. But without explaining these “proprietary messages,” the patent does not disclose sufficient structure. Moreover, there is no description of an algorithm detailing how such sharing is ensured to be done “substantially in real-time” as claimed.

As to claim 5, the specification does not describe a switch receiving “a *portion* of snooping information from the remote aggregation switch” and further does not describe any portion containing the information recited in claim 5. Thus, there is no corresponding structure disclosed and certainly nothing that would rise to the level of the required algorithm.

Thus, the specification does not disclose an algorithm for the claimed “sharing the snooping information substantially in real-time with the remote aggregation switch via the VFL” and “receiv[ing] a portion of the snooping information from the remote aggregation switch via the VFL” functions, rendering the claims indefinite.

**e. The “allocat[ing] the multicast index” and “shar[ing] the multicast index” functions**

Claim 13 requires allocating the multicast index for the received multicast traffic flow, and then sharing the multicast index with the secondary switch. These also requires special programming and require disclosure of an algorithm. Black Decl. at ¶¶ 70-71. Once again, the specification fails to provide any.

As described in the previous section, the specification says little about the multicast index. And here again, there is no explanation for *how* the chassis management module “allocates the multicast index,” or what that even means, as it is presumptively different from determining or sharing the multicast index, which also appear in claim 13. *See, e.g., Phillips*, 415 F.3d at 1314. As to sharing the multicast index, the specification merely states that the “chassis management module” does so. *See* ’447 patent at 23:13-18. Again, the specification fails to “clearly link[] or associate[]” any structure to the recited functions, and provides no algorithm, and renders this claim indefinite as well. *Williamson*, 792 F.3d at 1352.

**f. The remaining “storing” and “receiving” functions**

Enumerated functions 2 and 10 above respectively relate to the functions of storing and receiving information. These functions differ from the ones discussed in IV.B.2.a-e because, although the “chassis management module” amounts to a special purpose computer when carrying out the functions discussed above, the analysis is different when a claimed function is “coextensive” with “functions [that] can be achieved by any general purpose computer without special programming.” *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1316 (Fed. Cir. 2011). In *Katz*, the Federal Circuit found that “processing,” “receiving,” and “storing” were such functions and so do not require algorithms in some circumstances. *Id.* Thus, the corresponding structure for these two functions is the “one or more processing devices,” described



as being part of the chassis management module. '447 patent at 23:25-33.

\* \* \*

Because the specification fails to disclose an algorithm for functions recited in each of the above claims associated with the “chassis management module,” these claims are invalid for indefiniteness.

**C. “multicast index” (cls. 1, 12-15)**

<b>Arista’s Proposed Construction</b>	<b>WSOU’s Proposed Construction</b>
“a unique identifier assigned to an ingressing multicast flow based on the IP source, the destination address and ingress VLAN that enables each port to determine whether or not to forward the multicast flow”	Plain and ordinary meaning; no construction necessary.  Alternatively, “a unique identifier assigned to an ingressing multicast flow.” '447 Patent at 23:18–24.

Both parties offer a construction for “multicast index” found in the specification. The parties only dispute how much of the specification’s definition of “multicast index” should be included in the construction. Arista’s construction is the complete definition from the specification. By contrast, WSOU selects only a truncated portion for its alternative construction. The patent’s lexicography should govern and Arista’s construction should be adopted.

The '447 patent specification provides a clear definition of its “multicast index.” It states: “The multicast index 409 *is* a unique identifier assigned to an ingressing multicast flow based on the IP source, the destination addresses and ingress VLAN that enables each port to determine whether or not to forward the multicast flow.” '447 patent at 23:18-22 (emphasis added). This is a lexicographical statement. *See, e.g., Sinorgchem Co., Shandong v. Int’l Trade Comm’n*, 511 F.3d 1132, 1136 (Fed. Cir. 2007) (noting that “the word ‘is’” can “signify that a patentee is serving as its own lexicographer” (citation omitted)). Nothing in the specification even hints that a “multicast index” could be anything other than the express definition provided. Indeed, “multicast

index” is only mentioned in the specification in one column of the patent: column 23. *See* ’447 patent at 23:13-24, 23:56-63. The definition appears without caveat that it is a mere preference, or just one embodiment—in contrast to other passages of the specification that explicitly state that they are discussing only an embodiment. *See, e.g., id.* at 5:44-51, 6:46-50, 7:14-21, 18:6-15, 19:51-64; *see also* Black Decl. at ¶¶ 74-76.

*Sol IP, LLC v. AT&T Mobility LLC*, No. 2:18-cv-00526-RWS-RSP, 2019 WL 6878836 (E.D. Tex. Dec. 17, 2019) is instructive. There, the specification stated: “A short sequence (wn) *is* a binary sequence (or binary code) representing cell group information.” *Id.* at \*15 (emphasis added). Recognizing that the “usage of ‘is’ weighs in favor of finding a lexicography,” the court construed “short sequence” consistent with that definition in the specification. *Id.* at \*15-16. In doing so, the court rejected arguments that the statement was referring only to an embodiment, noting that “references to ‘exemplary embodiment[s]’ [elsewhere in the specification] contrast with the above-discussed more general statements about what a short sequence ‘is.’” *Id.* at \*15; *see also BookIT Oy v. Bank of Am. Corp.*, 817 F. App’x 990, 993-94 (Fed. Cir. 2020) (affirming the district court’s construction of “service providers” where the specification gave an explicit definition, and rejecting the patentee’s arguments that the specification was referring only to a preferred embodiment because the court found the definition was “apart from any mention of an embodiment, and lack[ed] any kind of qualification as ‘preferred’ or ‘optional’”). Just as in these cases, here “multicast index” should be construed consistent with the express definition in the specification.

WSOU’s alternative construction is incorrect because it only uses a portion of the express definition. In *Sinorgchem*, the patentee succeeded in convincing the ITC to use only half of the specification’s explicit definition of “a controlled amount of protic material.” 511 F.3d at 1135.

On appeal, the Federal Circuit reversed, holding that the ITC should have kept the entire definitional phrase from the specification intact as the construction. *See id.* at 1140 (“[W]e hold that the correct claim construction of the term ‘controlled amount’ is that ***defined expressly in the specification***.” (emphasis added)). Here, the specification provides an express definition and it would be error to use only a portion of that definition.

## V. CLAIM CONSTRUCTIONS RELATED TO U.S. PATENT NO. 9,450,884

The ’884 patent generally relates to a method for adjusting a bandwidth allocation for a target port. The claim construction dispute involves ambiguity injected into certain claims by a lack of antecedent basis for the term “the network switching element”—a term never used in the specification.

### A. “the network switching element” (cls. 17, 20)

Arista’s Proposed Construction	WSOU’s Proposed Construction
Indefinite	Plain and ordinary meaning; no construction necessary.  Alternatively, “The device comprising one or more of a virtual machine, a virtual network interface card, a virtual switch, and a physical network interface card.” ’884 Patent at 9:27–40.

In claims 17 and 20, the phrase “the network switching element” lacks antecedent basis. The question is “whether one of skill in the art would be able to ascertain the missing antecedent for the limitation upon review of the specification.” *Synqor, Inc. v. Artesyn Techs., Inc.*, 2:07-CV-497-TJW-CE, 2010 WL 2991037, at \*27 (E.D. Tex. July 26, 2010). Here, one of skill in the art cannot, and the claims’ scope lack “reasonable certainty” and are indefinite. *Nautilus*, 572 U.S. at 910; *see also Bushnell Hawthorne, LLC v. Cisco Sys., Inc.*, 813 F. App’x 522, 525–27 (Fed. Cir. 2020) (finding claim lacking antecedent basis indefinite because “[a] POSA, faced with the claims and the specification, could not, with reasonable certainty, discern the meaning of the claim term”).

Indeed, the specification is of no help in resolving what “the network switching element” is in claims 17 and 20—the phrase is absent from the specification. The phrase was added to the claims to overcome prior art, when every instance of “network element” in all of the ’884 patent claims was replaced with “network switching element.” Ex. 1, ’884 File History, Mar. 30, 2016 Amendment. The applicants never explained what a “network switching element” is in the claims—only that the prior art did not have it. The closest phrase in the specification is “network element.” But the specification does little to illuminate what the bounds of a “network element” are either. All that is known is that it has at least one port (’884 patent at 1:50-51), may have a plurality of ports (*id.* at 3:15-19), and may be associated with another network element (*id.* at 3:43-44). A “network element” may even be a user agent. *See id.* at 8:42-46. Moreover, given the narrowing claim amendments, “the network switching element” cannot be coterminous with a “network element,” but the specification does not explain the difference. Thus, the specification does not resolve the ambiguity.

The claims are also of little help in resolving the ambiguity. Claim 20 recites two entities: the “aggregation switch” and the “SDN controller,” the latter of which may be in another switch (*see* ’884 patent at 11:35-40). Similarly, claim 17 recites an “edge switch” and a “communications network.” The claims never specify where “the network switching element” resides, leaving a person of ordinary skill in the art to guess at the claims’ scope, rendering the claims indefinite. *See Cellular Commc’ns Equip. LLC v. AT&T, Inc.*, 2016 WL 7364266, at \*8-9 (E.D. Tex. 2016) (finding claim indefinite due to lack of antecedent basis because “the claims do not specify whether ‘the apparatus’ is an apparatus that is performing the recited method”); *see also Smith v. ORBCOMM, Inc.*, No. 2:14-CV-666, 2015 WL 5302815, at \*12 (E.D. Tex. Sept. 10, 2015) (finding claims indefinite due to lack of antecedent basis because it was “unclear what the phrase

. . . means in the context of the claims” and the specification did not “provide any insight” either); *see also* Black Decl. at ¶¶ 79-85.

The lack of antecedent basis is not a mere formality here. The very purpose of each claim rests on the “total bandwidth of the network switching element,” but the claims and specification do not tell a person of ordinary skill in the art what that “network switching element” is in claims 17 and 20. Thus, the lack of antecedent “has substantive and proof implications” and therefore “violates the fundamental principle that the claims of the patent are intended to put the world on notice of the exclusionary rights of the patent holder.” *Ill. Comput. Research LLC v. HarperCollins Publishers, Inc.*, No. 10 Civ. 9124, 2012 WL 163801, at \*11 (S.D.N.Y. Jan. 19, 2012) (citing *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1311 (Fed. Cir. 1999)).

WSOU contends the term needs no construction—effectively failing to address the ambiguity created by the lack of antecedent basis. And WSOU’s proposed alternative construction only makes matters worse. First, WSOU introduces a litany of other devices into the claims, only exacerbating the ambiguity. Second, WSOU’s list of devices derives from a description of specific “network devices 205” in the specification. *See* ’884 patent at 9:27-40. But the claimed term is “the network switching element,” not “network devices.” This has always been the case: “network element”—not “network device”—is what was used in the originally filed claims. Ex. 1, ’884 File History, Mar. 30, 2016 Amendment. The claims were amended to “network *switching* element” to overcome prior art which purportedly lacked the “switching” added to the claims. *Id.* (discussing prior art which disclosed “a proxy device,” “user device,” and a “resource”—devices that are stated not to be “switching” elements yet would fit within WSOU’s alternative construction). Thus, WSOU’s proposed alternative construction impermissibly reads out “switching” from the “network switching element” and cannot be squared with the addition of

“switching” by amendment to overcome a file history rejection. *See, e.g., Research Plastics, Inc. v. Federal Packaging Corp.*, 421 F.3d 1290, 1297 (Fed. Cir. 2005) (rejecting patentee’s proposed construction because it “would not avoid the prior art that [the patentee] distinguished” and “would negate the clear disclaimer of claim scope made during prosecution”); Black Decl. at ¶¶ 86-87.

The Court should invalidate claims 17 and 20 as indefinite for lack of antecedent basis. If it does not, the Court should reject WSOU’s clearly erroneous and unsupported alternative construction.

## **VI. CONCLUSION**

Arista respectfully requests that the Court adopt its proposed constructions for the disputed terms and reject WSOU’s.

Dated: July 26, 2021

Respectfully submitted,

/s/ Richard G. Frenkel

Paige Arnette Amstutz  
pamstutz@scottdoug.com  
SCOTT DOUGLASS & McCONNICO LLP  
303 Colorado Street, Suite 2400  
Austin, TX 78701  
Tel: (512) 495-6300  
Fax: (512) 495-6399

Douglas E. Lumish (pro hac vice)  
Jeffrey G. Homrig (pro hac vice)  
Richard G. Frenkel (pro hac vice)  
Linfong Tzeng (pro hac vice)  
LATHAM & WATKINS, LLP  
140 Scott Drive  
Menlo Park, CA 94025  
Tel: (650) 328-4600  
Fax: (650) 463-2600  
Doug.Lumish@lw.com  
Jeff.Homrig@lw.com  
Rick.Frenkel@lw.com  
Linfong.Tzeng@lw.com

Brian Lewis (pro hac vice)  
Amit Makker (pro hac vice)  
LATHAM & WATKINS, LLP  
505 Montgomery Street, Suite 2000  
San Francisco, CA 94111  
Tel: (415) 391-0600  
Fax: (415) 395-8095  
Brian.Lewis@lw.com  
Amit.Makker@lw.com

*Attorneys for Defendant  
Arista Networks, Inc.*

**CERTIFICATE OF SERVICE**

The undersigned certifies that on July 26, 2021, I electronically filed this document with the Clerk of Court via the Court's CM/ECF system which will send notification of such filing to all counsel of record, all of whom have consented to electronic service in this action.

/s/ Paige Amstutz

Paige Amstutz